

This species may have more affinities with *Amia* than with the *Characinidae*. A single specimen was obtained in a clay nodule by the naturalists of the U. S. Paraguay Expedition under Capt. Page, from the neighborhood of Para. It was accompanied by several specimens of a fish from other nodules, which closely resembles an *Aspidorhynchus*. Museum of the Smithsonian Institution.

On the occurrence of fossil Cobitidæ in Idaho.

BY E. D. COPE.

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Of the five genera of extinct Cyprinidæ and allied forms discovered by Capt. Clarence King* in the fresh water deposit of Catharine's Creek, etc., Idaho, the writer has been able to indicate the affinities of three. Thus *Semotilus*, *Anchybopsis* and *Mylocyprinus*, were regarded as representations of existing types of both carnivorous and herbivorous habits. *Oligobelus* and *Diastichus* were not assigned to any definite position in relation to known types of the same great group, and I am still compelled to leave the former in the same uncertain position. *Diastichus* I find, on the other hand, presents the peculiar direction of the pharyngeal teeth which is characteristic of the *Cobitidæ*, and I suspect that it represents a form of that family. I am entirely confirmed in this conclusion by the discovery, among the specimens submitted to me by the Smithsonian Institution, of the inferior element of the three modified anterior vertebræ, which are so characteristic of certain families of the *Physostomous* fishes. This portion, moreover, is that which occupies this position among the *Cobitidæ* only among them. It consists of a longitudinal plate terminating posteriorly in a bladder-like chamber on each side, each of which is closed below by a transverse process of the inferior plate: an angular fissure extends round the ends of these, and at the angle sends a short continuation upwards. This is quite similar to what is observed in *Cobitis*. The specimen described is apparently adult, and indicates a considerably smaller species than either the *Diastichus macrodon* or *D. parvidens*.

The occurrence of *Cobitidæ* is perhaps the most interesting fact brought to light by the examination of these extinct fishes. All of the numerous existing species are found in the Eastern Hemisphere, and the great majority in tropical Asia, a few only occurring in Europe and South Africa. Extinct species are found in the Miocene of Oeningen. We have, then, in the genus *Diastichus* another example of the occurrence of Asiatic types in North America prior to the glacial epoch, and as in a freshwater fish, strongly suggestive of continuity of territory of the two continents.

* See Proceed. Amer. Philos. Soc., 1870, 539.